REMARKS

In the Official Action of December 23, 2005, the restriction requirement made in the first Action was withdrawn and the §102 rejection over the Honkomp patent, made in the second Action, was not repeated. However, claims 1-16 were rejected under 35 U.S.C. 112 as failing to comply with the written description requirement. Applicants appreciate the withdrawal of the restriction requirement and the prior art rejection, but respectfully traverse the rejection under §112. In accordance with the requirements of 37 C.F.R. §§1.111(b) and 1.119, Applicants submit the following comments to distinctly and specifically point out the inappropriate nature of this rejection.

First, Applicants respectfully traverse the allegation that the specification does not describe a jacket in initial and expanded positions as recited in the second element of claim 1 and the fourth element of claim 12. As described on page 9, lines 5-7 of the specification,

> "the jacket 30 is press fit, molded over or shrink fit over conductor 18; for instance in a presently preferred embodiment, the thermoplastic material is high pressure molded at temperatures up to 900° F over the conductor 18."

Thus the specification describes a connector having a central conductor 18 that passes through a thermoplastic jacket 30 and a metal body 12, the metal body being hermetically sealed around conductor 18 by glass 22 and/or ceramic 26/28. The claimed "initial" position of jacket 30 is, therefore, the connector as manufactured (as shown in Figs. 2 and 3, for instance), and before exposure to heat, pressure, or heat and pressure, in a working environment. Although it should not be necessary because the specification of the present application fully describes Applicants' invention (and in fact, claim 1 has not been amended), in the event this rejection results from the use of the word "initial," claim 12 has been re-worded to eliminate that word, and to broaden that claim, and new claims 17 and 18 have been added to the application that do not use this word.

With reference to the term "expand" as recited in the claims, page 10, lines 14-19 of the specification states as follows:

> "As pressure increases and/or heat builds, the thermoplastic material comprising jacket 30 cold flows in the direction toward the surface 13 of metal body 12, but of course the metal body 12 is quite unyielding such that the thermoplastic material comprising jacket 30, being effectively confined by the surface 13 of body 12 and the I.D. of bulkhead 15, tends to **expand** radially outwardly into sealing contact with the I.D. of bulkhead 15 (compare Figs. 3 and 4) [emphasis added]."

It can be seen from this quotation from the specification of the captioned application that Applicants used the word "expand" in the specification to describe the deformation, or cold flow,

of the thermoplastic material comprising jacket 30 when pressure and/or heat builds after the connector of the present invention is exposed to heat and/or pressure. The term "cold flow" is used in the present application in a manner that is consistent with the usage of that term by those skilled in the art to refer to the distortion, deformation, or dimensional change that takes place in materials under load at temperatures below the melting point of the material[1]. The term is often used along with the term "creep" (see page 4, line 14 of the specification of the present application) and to illustrate a typical usage of these terms, reference is made to page 2 of the brochure that is attached to this Response as Exhibit A. Page 2 of Exhibit A, which advertises Vicote Coatings' VICTREX® PEEK polymer (PEEK is one of the thermoplastic materials listed in the specification of the present application as being suitable for use in jacket 30), states that one of the benefits of the VICTREX® polymer is that it is "very resistant to creep and flow caused by compression." This "creep and flow" is the type of deformation experienced by the thermoplastic material comprising the jacket of the connector of the present invention, and it is caused by pressure applied to the thermoplastic on the high pressure side of the thermoplastic jacket 30 (in the direction of arrow 24 in Fig. 4), causing the material comprising jacket 30 to deform, or cold flow, towards lower pressure until the thermoplastic encounters a boundary that prevents further distortion of the jacket 30. In this case, the jacket 30 cold flows until it contacts the metal body 12, which is (as described in the specification) "quite unyielding," and therefore acts to prevent the material comprising thermoplastic jacket 30 from flowing any further such that the thermoplastic expands radially outwardly, creating a seal between the bulkhead 15 and metal body 12 as shown in Fig. 4. Fig. 4 makes clear that the deformation of the thermoplastic material occurs between the bulkhead 15 and metal body 12, with the jacket 30 being the part that "expands," or fills, the gap between the O.D. of the jacket 30 and the I.D. of bulkhead 15. Thus, as shown from the above-quoted sections of the specification and in the figures, the material comprising jacket 30 expands from the claimed "initial" position before the connector is

[1] It appears from a review of certain technical references that the term "cold flow" is perhaps more accurately used to refer to deformation that occurs at room (or ambient) temperature (see, for instance, the The Condensed Chemical Dictionary, Van Nostrand Reinhold Company, which defines "cold flow" as "the permanent deformation of a material that occurs as a result of prolonged compression or extension at or near room temperature"). Applicants are using the term "cold flow" in a more general sense in accordance with the terminology with which they are familiar in the particular field of their endeavor, namely, to refer to the deformation of the material that occurs when the material is subjected to heat (which may be, as set out in the specfication of the present application, several hundred degrees F) and/or pressure, for instance, when the connector of the present invention is utilized in the bore of an oil well. Any restriction of the scope of the term "cold flow" that has the effect of referring to deformation that occurs at or near room temperature would be inconsistent with the Applicants' intentions in describing their invention.

exposed to a working environment to the claimed "expanded" position after it is inserted into bulkhead 15 and heat and/or pressure is applied in the direction indicated in Fig. 4.

Because the initial and expanded positions of jacket 30 are clearly described in the specification and shown in the figures, it is submitted that the allegation on page 2 of the Action that the initial and expanded positions are not described is not well taken. Reconsideration and withdrawal of the §112 rejection of claims 1-13 is therefore respectfully requested.

The allegation on page 2 of the Action that the claimed method of sealing (claim 14) has not been described in the specification is also respectfully traversed. In partial response to this allegation, the remarks set out above as to how the material comprising jacket 30 expands from an initial to an expanded position **sealing** against the bulkhead are re-asserted as if fully set forth in this paragraph. It is also noted that the terms "seal" and "sealing" are used throughout the specification to describe two sets of seals (in making this statement, Applicants are not suggesting that the present invention requires more than one or even all the seals; to respond to the allegation in the Action that the application does not describe a method of sealing, Applicants are instead merely pointing out that the captioned application describes "sealing" with not just one but with several seals). Specifically, the application describes an external seal consisting of the O-rings 52 and the jacket 30 when cold flow causes jacket 30 to expand due to heat and/or pressure from the jacket side as thoroughly discussed in the specification at page 9, lines 29-30:

> "The O-ring 58 located in the groove 32 on jacket 30 provides the primary seal to the O.D. of the thermoplastic material and an O-ring 58 located in the annular groove 16 in body 12 provides a secondary seal, thus ensuring that the outside diameter of the connector is effectively sealed to bulkhead 15."

Of course some embodiments of the connector of the present invention do not include an O-ring, and Applicants have not described this external seal in an attempt to identify structure that defines over the art. Applicants are instead describing this seal to answer the §112 rejection as to how "sealing" allegedly is not described in the specification of the present application. Indeed, the specification describes how this external seal is accomplished (without O-rings) by the above-described radially outward expansion of the jacket 30 as described thoroughly at page 10, lines 14-19:

> "As pressure increases and/or heat builds, the thermoplastic material comprising jacket 30 cold flows in the direction toward the surface 13 of metal body 12, but of course the metal body 12 is quite unyielding such that the thermoplastic material comprising jacket 30, being effectively confined by the surface 13 of body 12 and the I.D. of bulkhead 15, tends to expand radially outwardly into sealing contact with the I.D. of bulkhead 15 (compare Figs. 3 and 4)."

The specification also describes two internal seals that resist the leaking of fluids through and the arcing of current from the connector of the present invention to the bulkhead 15. The two internal seals consist of a hermetic seal and the seal between the thermoplastic jacket 30 and the conductor 18. The hermetic seal is known in the art as described, for instance, in U.S. Patent No. 3,793,608 (referenced in the specification of the captioned application at page 11, lines 18-21):

> "As known in the art, the particular glass that is utilized is a function of the material comprising the pin and body, it being important to match the coefficients of thermal expansion for the reasons described above and in the above-described U.S. Patent No. 3,793,608."

Patent No. 3,793,608 discusses the internal hermetic seal utilized in the connector of the present invention at length and is consistent with the description appearing at several locations of the specification of the captioned application, including page 8, lines 14-18:

> "A central conductor 18 extends through an elongate bore 20 in body 12, and in the case of connector 10 shown in Fig. 1, is sealed in the metal body by the glass 22 in the annulus between the outside diameter (O.D.) of conductor 18 and the inside diameter (I.D.) of the bore 20 in body 12."

This sentence quoted from the specification refers to the same hermetic seal described in Patent No. 3,793,608. The second internal seal is the seal between the thermoplastic jacket 30 and conductor 18. This seal is described on page 9, lines 5-13, of the specification:

> "Jacket 30 is press fit, molded over, or shrink fit over conductor 18; for instance in a presently preferred embodiment, the thermoplastic material is high pressure molded at temperatures up to 900° F over the conductor 18. As shown at reference numeral 36, the conductor 18 is provided with a plurality of grooves over which the thermoplastic material is molded so that the thermoplastic material 30 fills the voids as the thermoplastic material shrinks during cooling, thereby providing a seal against well bore fluids and electrical insulation between the conductor 18 and the bulkhead of the electrical apparatus."

With this description of the structure of the seals that characterize the connector of the present invention, and the above-described description of the manner in which heat and/or pressure cause the thermoplastic material comprising jacket 30 to expand radially outwardly to seal against bulkhead 15, it is respectfully submitted that, contrary to the allegation on page 2 of the Action that a method of sealing has not been described in the captioned application, the claimed method is more than adequately described in the captioned application.

Because the claimed invention has been described in such a way as to reasonably convey to one skilled in the art that Applicants had possession of the invention at the time the application was filed, as evidenced by the above-quoted passages from the specification, the §112 rejection

of the claims has been traversed. Reconsideration and withdrawal of that rejection is therefore respectfully requested.

Entry of the above amendments to the claims and new claims 17-18, consideration of the remarks set out herein, allowance of the claims, and passage of the application to issuance are all respectfully requested. In the unforeseen event that there are questions and/or issues yet to be answered in this application, it is respectfully requested that Applicants' Attorney be contacted at the address and phone number set out below.

Respectfully submitted,

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